

REMARKS

Claims 1-5 are rejected under 35 U.S.C. § 103. In addition, it is asserted that a drawing is required under 37 C.F.R. § 1.81.

Claim 1 has been amended herein. In Claim 1, the phrase “wherein the ratio by weight of the thermoplastic polyurethane material (A) to the thermoplastic polyamide (B) is 97 : 3 to 80 : 20,” has been inserted after “(C)” on line 3 of the claim. Support for this amendment can be found, for example, in Tables 1-3 of the specification.

Claims 3 and 4 have been canceled.

Claims 6 and 7 have been added. Support for Claim 6 can be found, for example, on page 6, lines 10-26 of the specification, and support for Claim 7 can be found, for example, on page 10, lines 7-10 of the specification.

Upon entry of the Amendment, Claims 1, 2, 4-7 are all the pending claims in the application.

Response to the Drawing Requirement

It is asserted that the subject matter of this application “admits of illustration by a drawing to facilitate understanding of the invention.”

Applicants respectfully submit, however, that the presently claimed subject matter does not “admit of illustration by a drawing” because a drawing is not necessary for the subject matter which is sought to be patented.

As evidence of this lack of “admission” Applicants note that in the parent of the present application, Application No. 10/138,249, which issued as U.S. Patent No. 6,747,100, no drawing

was filed and no objection under 37 C.F.R. § 1.18(c) was made. Therefore, it is respectfully requested that the drawing requirement be reconsidered and withdrawn.

Response to the Rejection of Claims 1-5 Under 35 U.S.C. § 103

Claims 1-5 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable by U.S. Patent No. 5,252,652 to Egashira et al. (“Egashira”) in view of U.S. Patent 5,585,152 to Tamura et al. (“Tamura”).

Egashira is relied upon as teaching a solid golf ball comprising a core and a cover.

The Examiner concedes that Egashira does not disclose the presently claimed polyurethane composition.

Tamura is relied upon as teaching a polyurethane composition comprising a thermoplastic polyurethane, a polymer, and Crossnate EM30.

With respect to the presently claimed hardness range, it is asserted that the hardness of the cover layer is an obvious feature of the composition taught by Tamura since Applicant’s composition is identical.

It is concluded that one skilled in the art would have modified the cover of Egashira with the composition of Tamura in order to increase the mold-releasing properties and impact resilience of a golf ball.

Applicants’ Response

Applicants respectfully traverse the rejection for the following reasons.

In the present invention, a golf ball cover is formed from composition (D) which contains (A) a thermoplastic polyurethane material, (B) a thermoplastic polyamide and (C) an isocyanate

mixture. The ratio by weight of the thermoplastic polyurethane material (A) to the thermoplastic polyamide (B) is 97:3 to 80:20. The isocyanate mixture (C) comprise an isocyanate compound (c-1), which has at least two isocyanate groups serving as functional groups in the molecule, dispersed in a thermoplastic resin (c-2). The present invention is further characterized in that the cover material has a surface hardness of 40 to 80 as measured by use of a D-type durometer.

Applicants submit that the present invention is not rendered obvious by the teachings of Egashira in view of Tamura because one of ordinary skill in the art would not have been motivated to combine the teachings of Tamura with those of Egashira.

As discussed above, it is conceded that Egashira does not disclose the presently claimed polyurethane composition.

Applicants submit that one of ordinary skill in the art would not have incorporated the polyamide resin composition of Tamura into the golf ball composition of Egashira because the teachings of Tamura would not have been considered applicable to a golf ball composition.

Tamura teaches a polyamide resin composition useful for the production of articles, such as gasoline tubes, hoses, packings, cams, gears, and the like. The resulting articles have a low tensile modulus, as well as, excellent oil resistance, thermal resistance, hydrolysis resistance, chemical resistance, and moldability.

Applicants respectfully submit that no motivation to combine Egashira and Tamura exists because the composition in Tamura is characterized by its a lower tensile modulus, *i.e.*, low elastic modulus. In contrast, it is understood, however, that a golf ball must have sufficiently high elastic modulus in order for it to possess high impact resilience.

Applicants note that it is well known by a one of ordinary skill in the art that the flight distance of a golf ball is significantly reduced if the composition having low elastic modulus is used as a cover material of the golf ball.

In view of the nature of the teachings of Tamura, one of ordinary skill in the art would not be motivated to use a composition having a low elastic modulus in a golf ball.

Applicants note that gasoline tubes, hoses, packings, cams and gears do not require the same properties as golf balls. Golf balls, however, require much higher impact restitution and scuff resistance that gasoline tubes, hoses, packings, cams and gears.

Accordingly, Applicants submit that one of ordinary skill in the art would not have been motivated to combine the teachings of Tamura with Egashira

With regard to the presently claimed composition, Applicants submit that Tamura fails to teach a composition comprising a thermoplastic polyurethane, a thermoplastic polyamide and an isocyanate mixture wherein the ratio of the thermoplastic polyurethane material to the thermoplastic polyamide is 97:3 to 80:20.

In the Office Action, it is asserted that the composition of the present invention is identical to the Examples 13-16 in Table 5 of Tamura.

Applicants note, however, that in the Examples of Tamura, the proportion of thermoplastic polyurethane to thermoplastic polyamide are 70:30 to 45:55.¹

¹ According to Examples 13-16 in Tamura, the proportion between the thermoplastic polyurethane material and the thermoplastic polyamide is about 62 (*i.e.*, 65x0.95):35, and about 59 (*i.e.*, 65x0.9):35.

Thus, even if one of ordinary skill in the art were to combine the teachings of Egashira and Tamura, the combined reference teachings fail to teach each and every element that is recited in the claims.

Accordingly, Applicants submit that a prima facie case of obviousness based on Egashira and Tamura cannot be established. Thus, it is submitted that the § 103 rejection be reconsidered and withdrawn.

With regard to new Claim 6, Applicants submit that Claim 6 is not rendered obvious by the teachings of Egashira in view of Tamura. Specifically, one of ordinary skill in the art would not be motivated to select polyether polyols as preferred the polyols because Tamura teaches that polyester polyols and polycarbonate polyols as preferred polyols.

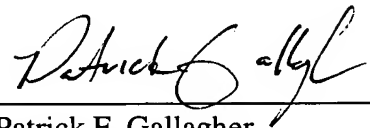
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/720,538

Q78639

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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